

# Claims

1. A computer-based method of implementing rules in a rules-based system,  
comprising:

providing a first rules metaphor interface in the rules-based system;

5 providing a second rules metaphor interface in the rules-based system, the second  
rules metaphor interface different from the first rules metaphor interface;

defining a ruleflow having at least one task;

selecting either the first rules metaphor interface or the second rules metaphor  
interface to implement a first ruleset corresponding to the at least one task; and

10 implementing the first ruleset using a selected rules metaphor interface, the first  
ruleset comprising at least one rule.

2. The computer-based method of claim 1 in which either the first or second rules  
metaphor interfaces is a decision table metaphor.

15

3. The computer-based method of claim 2 in which the act of implementing the ruleset  
using the decision table metaphor comprises:

analyzing parameters of the task to determine information elements needed to make a  
decision to implement functionality of the at least one task; and

20 defining a grid of one or more cells corresponding to the information elements.

4. The computer-based method of claim 3 in which the grid of one or more cells  
comprises:

a condition cell corresponding to a condition; and

an action cell corresponding to the condition cell, the action cell comprising an action that occurs upon satisfying a condition defined for the condition cell.

- 5     5.     The computer-based method of claim 3 in which each cell in the grid of one or more cells has a defined object type having attributes relating to the function of the cell.
6.     The computer-based method of claim 5 in which a plurality of cell object types are employed in the grid of one or more cells.
- 10     7.     The computer-based method of claim 3 in which a cell in the grid of one or more cells comprises a formula.
8.     The computer-based method of claim 3 in which a cell in the grid of one or more cells  
15     comprises a call to an external function.
9.     The computer-based method of claim 3 in which a cell in the grid of one or more cells references an external ruleset.
- 20     10.    The computer-based method of claim 3 in which a cell in the grid of one or more cells references another decision table.

11. The computer-based method of claim 3 in which the grid of one or more cells comprises a multi-column arrangement.
12. The computer-based method of claim 11 in which the multi-column arrangement  
5 comprises a plurality of dimensions for cell grids in the grid of one or more cells.
13. The computer-based method of claim 2 in which the decision table metaphor is an AND decision table.
- 10 14. The computer-based method of claim 13 in which the AND decision table is organized as a traditional AND decision table.
15. The computer-based method of claim 13 in which the AND decision table has an inverted action section organized with a condition section.
- 15 16. The computer-based method of claim 2 in which the decision table metaphor is an AND/OR decision table.
17. The computer-based method of claim 2 in which the decision table metaphor is an  
20 AND decision table.
18. The computer-based method of claim 1 in which either the first or second rules metaphor interfaces is a tree metaphor.

19. The computer-based method of claim 18 in which the act of implementing the first ruleset using the tree metaphor comprises:

- analyzing parameters of the at least one task to determine parameters to implement  
5 functionality of the at least one task; and  
defining a tree of one or more nodes corresponding to the parameters.

20. The computer-based method of claim 19 in which the one or more nodes comprise a node having one or more successor paths based upon evaluation of a condition.

10

21. The computer-based method of claim 19 in which the one or more nodes comprise a node having one or more successor paths based upon probability factors.

22. The computer-based method of claim 19 in which the one or more nodes comprise a  
15 node containing the conclusion of a decision making process.

23. The computer-based method of claim 22 in which the node containing the conclusion of a decision making process comprises an action to apply.

20 24. The computer-based method of claim 18 in which the tree metaphor is selected from the group consisting of decision tree metaphor, classification tree metaphor, and computation tree metaphor.

25. The computer-based method of claim 1 in which either the first or second rules metaphor interfaces is a scorecard metaphor.

26. The computer-based method of claim 25 in which the act of implementing the first ruleset using the scorecard metaphor comprises:

analyzing parameters of the task to determine object attributes to implement functionality of the at least one task; and

defining a scorecard having point values assigned to possible object attribute values.

27. The computer-based method of claim 1 in which either the first or second rules metaphor interfaces is a questionnaire metaphor.

28. The computer-based method of claim 27 in which the act of implementing the first ruleset using the questionnaire metaphor comprises:

analyzing parameters of the task to define a set of questions to be presented; and defining follow-up questions for responses to answers to the set of questions.

29. The computer-based method of claim 27 in which the first ruleset is generated based upon the defined set of questions and follow-up questions.

30. The computer-based method of claim 1 in which either the first or second rules metaphor interfaces is a configuration verification metaphor.

31. The computer-based method of claim 27 in which the act of implementing the first ruleset using the configuration verification metaphor comprises:

analyzing parameters of the task to identify a set of choice parameters having interrelationships; and

5 defining relationships between members in the set of choice parameters.

32. The computer-based method of claim 31 further comprising:

defining individual options for the members in the set of choice parameters.

10 33. The computer-based method of claim 31 further comprising:

defining an aggregation of options for the members in the set of choice parameters.

34. The computer-based method of claim 31 further comprising:

defining conflicts for the members in the set of choice parameters.

15

35. The computer-based method of claim 31 further comprising:

defining mandatory relationships for the members in the set of choice parameters.

36. The computer-based method of claim 31 further comprising:

20 defining recommendations for the members in the set of choice parameters.

37. The computer-based method of claim 1 in which either the first or second rules metaphor interfaces is a state transition diagram metaphor.

38. The computer-based method of claim 1 in which the ruleflow comprises a second task, the method further comprising:

selecting the first rules metaphor interface to implement a second ruleset  
5 corresponding to the second task if the second rules metaphor interface was selected to implement the first ruleset; and

selecting the second rules metaphor interface to implement a second ruleset  
corresponding to the second task if the first rules metaphor interface was selected to implement the first ruleset.

10

39. The computer-based method of claim 38 in which the second ruleset utilizes the results of the first ruleset.

40. A computer program product that includes a medium usable by a processor, the  
15 medium having stored thereon a sequence of instructions which, when executed by said processor, causes said processor to execute a process for implementing rules in a rules-based system, said process comprising:

providing a first rules metaphor interface in the rules-based system;  
providing a second rules metaphor interface in the rules-based system, the second  
20 rules metaphor interface different from the first rules metaphor interface;

defining a ruleflow having at least one task;

selecting either the first rules metaphor interface or the second rules metaphor  
interface to implement a first ruleset corresponding to the at least one task; and

41. The computer program product of claim 40 in which either the first or second rules  
5 metaphor interfaces is a decision table metaphor.

analyzing parameters of the task to determine information elements needed to make a  
10 decision to implement functionality of the at least one task; and  
defining a grid of one or more cells corresponding to the information elements.

15           a condition cell corresponding to a condition; and

              an action cell corresponding to the condition cell, the action cell comprising an action

              that occurs upon satisfying a condition defined for the condition cell.

45. The computer program product of claim 44 in which a plurality of cell object types are employed in the grid of one or more cells.



46. The computer program product of claim 42 in which a cell in the grid of one or more cells comprises a formula.

47. The computer program product of claim 42 in which a cell in the grid of one or more  
5 cells comprises a call to an external function.

48. The computer program product of claim 42 in which a cell in the grid of one or more cells references an external ruleset.

10 49. The computer program product of claim 42 in which a cell in the grid of one or more cells references another decision table.

50. The computer program product of claim 42 in which the grid of one or more cells comprises a multi-column arrangement.

15 51. The computer program product of claim 50 in which the multi-column arrangement comprises a plurality of dimensions for cell grids in the grid of one or more cells.

52. The computer program product of claim 41 in which the decision table metaphor is an  
20 AND decision table.

53. The computer program product of claim 52 in which the AND decision table is organized as a traditional AND decision table.

54. The computer program product of claim 52 in which the AND decision table has an inverted action section organized with a condition section.

5 55. The computer program product of claim 41 in which the decision table metaphor is an AND/OR decision table.

56. The computer program product of claim 41 in which the decision table metaphor is an AND decision table.

10

57. The computer program product of claim 40 in which either the first or second rules metaphor interfaces is a tree metaphor.

58. The computer program product of claim 57 in which the act of implementing the first  
15 ruleset using the tree metaphor comprises:

analyzing parameters of the at least one task to determine parameters to implement functionality of the at least one task; and

defining a tree of one or more nodes corresponding to the parameters.

20 59. The computer product program of claim 58 in which the one or more nodes comprise a node having one or more successor paths based upon evaluation of a condition.

60. The computer program product of claim 58 in which the one or more nodes comprise a node having one or more successor paths based upon probability factors.

61. The computer program product of claim 58 in which the one or more nodes comprise  
5 a node containing the conclusion of a decision making process.

62. The computer program product of claim 61 in which the node containing the conclusion of a decision making process comprises an action to apply.

10 63. The computer program product of claim 57 in which the tree metaphor is selected from the group consisting of decision tree metaphor, classification tree metaphor, and computation tree metaphor.

64. The computer program product of claim 40 in which either the first or second rules  
15 metaphor interfaces is a scorecard metaphor.

65. The computer program product of claim 64 in which the act of implementing the first ruleset using the scorecard metaphor comprises:  
analyzing parameters of the task to determine object attributes to implement  
20 functionality of the at least one task; and  
defining a scorecard having point values assigned to possible object attribute values.

66. The computer program product of claim 40 in which either the first or second rules metaphor interfaces is a questionnaire metaphor.

67. The computer program product of claim 66 in which the act of implementing the first ruleset using the questionnaire metaphor comprises:

analyzing parameters of the task to define a set of questions to be presented; and  
defining follow-up questions for responses to answers to the set of questions.

68. The computer program product of claim 66 in which the first ruleset is generated based upon the defined set of questions and follow-up questions.

69. The computer program product of claim 40 in which either the first or second rules metaphor interfaces is a configuration verification metaphor.

70. The computer program product of claim 69 in which the act of implementing the first ruleset using the configuration verification metaphor comprises:

analyzing parameters of the task to identify a set of choice parameters having interrelationships; and

defining relationships between members in the set of choice parameters.

71. The computer program product of claim 70 further comprising:  
defining individual options for the members in the set of choice parameters.

72. The computer program product of claim 70 further comprising:  
defining an aggregation of options for the members in the set of choice parameters.
73. The computer program product of claim 70 further comprising:  
5 defining conflicts for the members in the set of choice parameters.
74. The computer program product of claim 70 further comprising:  
defining mandatory relationships for the members in the set of choice parameters.
- 10 75. The computer program product of claim 70 further comprising:  
defining recommendations for the members in the set of choice parameters.
76. The computer program product of claim 40 in which either the first or second rules  
metaphor interfaces is a state transition diagram metaphor.
- 15 77. The computer program product of claim 40 in which the ruleflow comprises a second  
task, the method further comprising:  
selecting the first rules metaphor interface to implement a second ruleset  
corresponding to the second task if the second rules metaphor interface was selected to  
20 implement the first ruleset; and  
selecting the second rules metaphor interface to implement a second ruleset  
corresponding to the second task if the first rules metaphor interface was selected to  
implement the first ruleset.

78. The computer program product of claim 77 in which the second ruleset utilizes the results of the first ruleset.